

Topic: Energy Conservation

KILL A WATT Reading Lesson Plan: Grade Level: 6-8

The school has recently gone “Green”. In an effort to reduce energy usage, the school has signed up to participate in the Green Cup Energy Challenge. During the monthlong competition, students will learn about renewable and non-renewable energy and how each affects our environment. Additionally, students will participate in efforts to raise awareness and behavior change among staff and students on the topic of energy conservation.

Time: 2-3 45 minute sessions.

Materials: Science Journal, Worksheet/Charts, KILL A WATT meter, pencils, paper, PA system:)

Standards: UNIT 4 HUMANS IN THEIR ENVIRONMENT: *NEEDS AND TRADEOFFS*

How does human consumption of resources impact the environment and our health?

Natural Resources and Energy and General Skills (from NYS Core Curriculum)

- 1 - Energy needs
- 2 - Manipulating materials – handling or treating materials and equipment safely, skillfully, and effectively
- 3 - Measuring – making quantitative observations by comparing to a conventional or nonconventional standard
- 4 - Recognize and analyze patterns and trends
- 5 - Communicating-giving oral and written explanations or graphic representations of observations
- 6 - Energy conservation

Objectives:

Students will become aware of an object or event by using any of the senses (or extensions of the senses) to identify properties

Students will safely and accurately use the following measurement tools - Students will use appropriate units for measured or calculated values

Gathering and organizing data – collecting information about objects and events which illustrate a specific situation.

Interpreting data – analyzing data that have been obtained and organized by determining apparent patterns or relationships in the data.

Procedures:

1. Students will engage in a Journal Writing Activity - List five things that you use in school everyday that require electricity? Describe what your day would be like if you did not have any electrical power to run these things.
2. Students will measure the electrical output of an appliance in watts. Students will use a KILL A WATT meter to find the wattage of various electronic appliances in their classroom in on/off mode exploring “Vampire/Phantom” appliances. Students will record the measurements on a chart.

Appliance	Watts/on	Watts/off

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3. Students will estimate the total number of commonly used appliances in the school and determine the total amount of wattage that the appliance uses in the school.

Appliance	Watts/on	x # of items in school

4. Students will display the data on a graph to show the amount of wattage each appliance uses.
5. Students will work individually or in groups of 2-4 to write a PSA to read over the loudspeaker in the school for one day of the Green Cup Energy Challenge. The announcement will include the basic details of the competition (dates, prizes, raising awareness of energy reduction), details of the data they gathered on how much energy is used by school appliances (which appliances uses the most energy), tips and ideas to save energy, and reminders to shut down, turn off, and unplug.

Evaluation: Students will use a self-evaluation check list to determine if they included required and extra information in their PSA.

Did the PSA include...

the name of the Green Cup Energy Challenge?	yes or no
one or more details of the data I collected?	yes or no
one or more tips for reducing energy?	yes or no
reminders to shut down, turn off, and unplug?	yes or no
Did I write/speak in complete sentences?	yes or no

As a Member of a group did I...

assist in preparing the work?	yes or no
express my ideas to the group?	yes or no
actively participate in the group?	yes or no